



UNITED STATES PATENT AND TRADEMARK OFFICE

I, Susan POTTS BA ACIS,

Director of RWS Group plc, of Europa House, Marsham Way, Gerrards Cross, Buckinghamshire, England declare;

1. That I am a citizen of the United Kingdom of Great Britain and Northern Ireland.
2. That the translator responsible for the attached translation is well acquainted with the French and English languages.
3. That the attached is, to the best of RWS Group plc knowledge and belief, a true translation into the English language of the specification in French filed with the application for a patent in the U.S.A. on
under the number
4. That I believe that all statements made herein of my own knowledge are true and that all statements made on information and belief are true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the patent application in the United States of America or any patent issuing thereon.

For and on behalf of RWS Group plc

The 20th day of February 2002

The present invention relates to a care composition and/or treatment composition and/or make-up composition for the skin, including the scalp, and/or the lips of humans, containing a liquid fatty phase 5 containing a fluoro oil, structured with a particular polymer. This composition is especially in the form of a make-up stick and more especially a lipstick, which, when applied, gives a noteworthy shiny, non-sticky, transfer-resistant deposit.

10 It is common to find a structured, i.e.
gelled and/or rigidified, liquid fatty phase in
cosmetic or dermatological products; this is especially
the case in solid compositions such as deodorants, lip
balms, lipsticks, concealer products and cast
15 foundations. This structuring is obtained with the aid
of waxes and/or fillers.

The structuring of the liquid fatty phase makes it possible in particular to limit its exudation from solid compositions, in particular in hot and humid regions, and in addition to limit, after deposition on the skin or the lips, the migration of this phase into the wrinkles and fine lines, which is particularly desired for a lipstick. Specifically, significant migration of the liquid fatty phase, in particular when it is charged with dyestuffs, leads to an unaesthetic effect around the lips and the eyes, which particularly accentuates the wrinkles and fine lines. This migration

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is often mentioned by women as being a major defect of conventional lipsticks.

Unfortunately, the waxes and fillers conventionally used for structuring have a tendency to 5 make the composition matt, which is not always desirable, in particular for a lipstick; specifically, women are always looking for lipstick in the form of a tube depositing a film that is increasingly glossy.

The gloss is essentially associated with the 10 nature of the liquid fatty phase. Thus, it is possible to reduce the content of waxes and of fillers in the composition in order to increase the gloss of a lipstick, but in this case the migration of the liquid fatty phase increases. In other words, the content of 15 waxes and of fillers required to prepare a stick of suitable hardness which does not exude at room temperature is a restricting factor on the gloss of the deposit.

The Applicant has found that the loss of 20 gloss of a stick containing waxes is associated with the anisotropic crystal structure of these compounds.

Furthermore, most make-up compositions or care compositions, when applied to the skin, the eyelashes or the lips, have the drawback of 25 transferring, i.e. of becoming at least partly deposited, leaving marks, on certain supports with which they may come into contact, and especially a glass, a cup, a cigarette, an item of clothing or the

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skin. This results in mediocre persistence of the film applied, making it necessary to regularly reapply the composition, especially a foundation or lipstick.

However, users nowadays wish to achieve a beauty

5 enhancement of their face, including the lips, and their body while spending as little time as possible doing so. Moreover, the appearance of these unacceptable marks, especially on blouse collars, may put certain women off using this type of make-up.

10 Cosmeticians have therefore been interested
for many years in "transfer-resistant" lipstick
compositions and more recently in transfer-resistant
foundation compositions. Thus, the company Shiseido has
envisioned, in its patent application JP-A-61-65809,
15 transfer-resistant lipstick compositions containing a
siloxysilicate resin (with a three-dimensional
network), a volatile silicone oil containing a cyclic
silicone chain and pulverulent fillers. Similarly, the
company Noevier has disclosed, in document
20 JP-A-62-61911, transfer-resistant lipstick, eyeliner
and foundation compositions comprising one or more
volatile silicones combined with one or more
hydrocarbon-based waxes.

25 Although these compositions have improved transfer-resistance properties, they have the drawback of leaving on the lips, after the silicone oils have evaporated off, a film which becomes uncomfortable over time (sensation of drying out and of tautness), which

puts a certain number of women off this type of lipstick. In addition, the film deposited is matt.

Patent application EP-A-0 749 746 from L'Oréal discloses lipstick compositions containing a dispersion of polymer particles that are surface-stabilized with a polymer stabilizer. These compositions have the drawback of containing only a small proportion of polar oils that are known to give sheen to the film deposited, in conventional compositions. In particular, the presence of a large proportion of polar oils (at least 5%) results in flocculation of the particles and thus instability over time of the compositions.

A need thus remains for a composition which does not have the above drawbacks, and which especially has noteworthy transfer-resistance properties, even in the case of a pronounced pressure or friction, good staying power over time, in particular of the colour, a glossy appearance, and which is not sticky and does not dry out the skin or the lips onto which it is applied, either during application or over time. Furthermore, this composition is stable over time and easy to manufacture, and it is easy to introduce pigments therein.

A subject of the invention is, precisely, a care composition and/or make-up composition and/or treatment composition for the skin and/or the lips of

the face and/or for integuments, which overcomes the drawbacks mentioned above.

Surprisingly, the Applicant has found that the use of particular polymers combined with a fluoro oil makes it possible to obtain a stick which, when applied to the lips, gives a film with noteworthy cosmetic properties. In particular, the film is glossy, flexible, comfortable, "transfer-resistant" and non-sticky. In addition, the film shows good homogeneity.

10 Furthermore, the composition is stable over time and does not exude at room temperature (25°C) and atmospheric pressure (760 mmHg).

Moreover, when the fluoro oil is a silicone fluoro oil, the said oil is highly compatible with non-fluoro silicone oils: it is then possible to incorporate a larger amount of silicone oil into the composition, which further promotes the staying power of the lipstick.

The term "stable" means a composition that

20 does not exude at room temperature (25°C) and atmospheric pressure (760 mmHg) for at least 2 months, or even up to 9 months.

The invention applies not only to make-up products for the lips, such as lipsticks, lip glosses

25 and lip pencils, but also to care and/or treatment products for the skin, including the scalp, and for the lips, such as antisun care products for the face, the body or the lips, especially in stick form, make-up

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products for the skin, both of the human face and of the human body, such as foundations optionally cast in stick or dish form, concealer products, eye shadows, face powders, transfer tattoos, body hygiene products 5 such as deodorants, especially in stick form, shampoos, conditioners and make-up products for the eyes such as eyeliners, eye pencils and mascaras, more especially in cake form, as well as make-up and care products for the integuments, in particular keratin fibres such as the 10 hair and the eyebrows.

More specifically, a subject of the invention is a structured composition containing at least one liquid fatty phase comprising at least one fluoro oil, the liquid fatty phase being structured with at least 15 one structuring polymer with a weight-average molecular mass of less than or equal to 1 000 000, comprising a) a polymer skeleton having hydrocarbon-based repeating units containing at least one hetero atom, and b) optionally at least one pendent fatty chain 20 and/or at least one terminal fatty chain that are optionally functionalized, containing from 6 to 120 carbon atoms and being linked to these hydrocarbon-based units, the liquid fatty phase and the structuring polymer forming a physiologically acceptable medium.

25 The composition of the invention advantageously comprises no silicone resin containing siloxysilicate or trimethylated silica units, so as to preserve the comfort properties of the composition.

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The composition of the invention can be in the form of a paste, a solid or a more or less viscous cream. It can be an oil-in-water or water-in-oil simple emulsion, a multiple emulsion, or a rigid or soft 5 anhydrous gel. In particular, the liquid fatty phase of the composition is a continuous or external phase. The composition is especially in a form cast as a stick or a dish and more especially in the form of an anhydrous rigid gel, especially an anhydrous stick. In 10 particular, it is in the form of a rigid gel that is translucent or transparent (in the absence of pigments), the liquid fatty phase forming the continuous phase.

For the purposes of the invention, the 15 expression "liquid fatty phase" means a fatty phase that is liquid at room temperature (25°C) and atmospheric pressure (760 mmHg), composed of one or more fatty substances that are liquid at room temperature, also known as oils, that are generally 20 mutually compatible.

The structuring of the fatty phase can be modified according to the nature of the hetero atom-containing structuring polymer used, and may be such that a rigid structure in the form of a tube or a stick 25 is obtained. When these tubes are coloured, they make it possible, after application, to obtain a glossy deposit of uniform colour, that does not migrate, does not transfer, in particular onto a support placed in

contact with the film, after evaporation of the volatile solvent, and that has good staying power, especially of the colour over time.

The composition of the invention is 5 preferably a composition for the lips and better still a lipstick composition, especially in stick or tube form.

The structuring polymer of the composition of the invention is a solid that is undeformable at room 10 temperature (25°C) and atmospheric pressure (760 mmHg). It is insoluble in water or in an aqueous phase; it is capable of structuring the composition without opacifying it. In particular, the structuring polymer does not crystallize out and the structuring of the 15 liquid fatty phase is due to hydrogen interactions between two polymer molecules and/or between the molecules of the polymer and the molecules of the liquid fatty phase. Preferably, the structuring polymer contains no ionic groups.

20 For the purposes of the invention, the expression "functionalized chains" means an alkyl chain comprising one or more functional or reactive groups chosen in particular from amide, hydroxyl, ether, oxyalkylene, polyoxyalkylene, halogen, including fluoro 25 or perfluoro, ester, siloxane and polysiloxane groups. In addition, the hydrogen atoms of one or more fatty chains may be substituted at least partially with fluorine atoms.

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According to the invention, these chains may be linked directly to the polymer skeleton or via an ester function or a perfluoro group.

For the purposes of the invention, the term
5 "polymer" means a compound containing at least 2
repeating units and preferably at least 3 repeating
units, which are identical.

For the purposes of the invention, the expression "hydrocarbon-based repeating units" means a unit containing from 2 to 80 carbon atoms and preferably from 2 to 60 carbon atoms, bearing hydrogen atoms and optionally oxygen atoms, which may be linear, branched or cyclic, and saturated or unsaturated. These units each also comprise one or more hetero atoms that are advantageously non-pendent and are in the polymer skeleton. These hetero atoms are chosen from nitrogen, sulphur and phosphorus atoms and combinations thereof, optionally combined with one or more oxygen atoms.

Preferably, the units comprise at least one nitrogen atom, in particular a non-pendent nitrogen atom. These units also advantageously comprise a carbonyl group.

The units containing a hetero atom are, in particular, amide units forming a skeleton of the polyamide type, carbamate and/or urea units forming a 25 polyurethane, polyurea and/or polyurea-urethane skeleton. These units are preferably amide units. The pendent chains are advantageously linked directly to at least one of the hetero atoms of the polymer skeleton.

According to one embodiment, the first polymer comprises a polyamide skeleton. In addition, the end chains are linked to the polymer skeleton via a bonding group which may be an ether, amine, urea, urethane, 5 thioether, thioester, thiourea or thiourethane group or a single bond.

Between the hydrocarbon-based units, the polymer may comprise silicone units or oxyalkylene units.

10 In addition, the polymer in the composition of the invention advantageously comprises a total number of fatty chains which represents from 40% to 98% of the total number of units containing a hetero atom and of fatty chains, and better still from 50% to 95%.
15 The nature and proportion of the units containing a hetero atom depends on the nature of the liquid fatty phase and is, in particular, similar to the nature (polar or not) of the liquid fatty phase. Thus, the more the units containing a hetero atom are polar and
20 in high proportion in the polymer, which corresponds to the presence of several hetero atoms, the greater the affinity of the polymer for polar oils. Conversely, the more the units containing a hetero atom are non-polar, or even apolar, or the lower the proportion thereof,
25 the greater the affinity of the polymer for apolar oils.

A subject of the invention is also a structured composition containing at least one liquid

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fatty phase comprising at least one fluoro oil, the liquid fatty phase being structured with at least one polyamide with a weight-average molecular mass of less than 1 000 000, comprising a) a polymer skeleton 5 containing amide repeating units and b) optionally at least one pendent fatty chain and/or at least one terminal fatty chain that are optionally functionalized, containing from 6 to 120 carbon atoms and being linked to these amide units, the liquid fatty 10 phase and the polyamide forming a physiologically acceptable medium.

The pendent fatty chains are preferably linked to at least one of the nitrogen atoms in the amide units of the polymer.

15 In particular, the fatty chains of this polyamide represent from 40% to 98% relative to the total number of amide units and of fatty chains, and better still from 50% to 95%.

Advantageously, the structuring polymer and 20 in particular the polyamide in the composition according to the invention has a weight-average molecular mass of less than 1 000 000 and better still less than 500 000. Preferably, this molecular mass is less than or equal to 100 000 (in particular ranging 25 from 1 000 to 100 000), in particular less than or equal to 50 000 (especially ranging from 1 000 to 50 000), more particularly ranging from 1 000 to

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30 000, preferably from 2 000 to 20 000 and better still from 2 000 to 10 000.

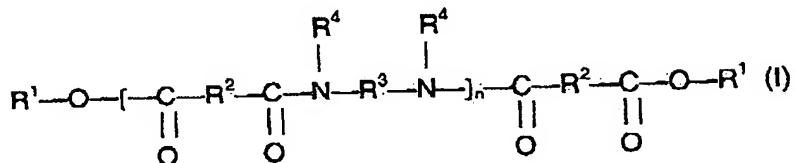
As preferred structuring polymers which may be used in the invention, mention may be made of 5 polyamides branched with pendent fatty chains and/or terminal fatty chains containing from 6 to 120 carbon atoms, in particular having from 12 to 120 carbon atoms and especially from 12 to 68 carbon atoms, the terminal fatty chains being linked to the polyamide skeleton via 10 bonding groups, especially ester groups.

These polymers are preferably polymers resulting from a polycondensation between a dicarboxylic acid containing at least 32 carbon atoms (in particular containing from 32 to 44 carbon atoms) 15 and a diamine containing at least 2 carbon atoms (in particular from 2 to 36 carbon atoms). The diacid is preferably a dimer of a fatty acid containing at least 16 carbon atoms, for instance oleic acid, linoleic acid or linolenic acid. The diamine is preferably 20 ethylenediamine, hexylenediamine or hexamethylenediamine. For the polymers comprising one or 2 terminal carboxylic acid groups, it is advantageous to esterify them with a monoalcohol containing at least 4 carbon atoms, preferably from 10 25 to 36 carbon atoms, better still from 12 to 24 and even better from 16 to 24, for example 18 carbon atoms.

These polymers are more especially those disclosed in document US-A-5 783 657 from the company

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Union Camp. Each of these polymers in particular satisfies formula (I) below:



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in which n denotes a number of amide units such that the number of ester groups represents from 10% to 50% of the total number of ester and amide groups; R¹ is, independently in each case, an alkyl or alkenyl group containing at least 4 carbon atoms; for example from 4 to 24 carbon atoms; R² represents, independently in each case, a C₄ to C₄₂ hydrocarbon-based group, on condition that 50% of the groups R² represent a C₃₀ to C₄₂ hydrocarbon-based group; R³ represents, independently in each case, an organic group containing at least 2 carbon atoms, hydrogen atoms and optionally one or more oxygen or nitrogen atoms; and R⁴ represents, independently in each case, a hydrogen atom, a C₁ to C₁₀ alkyl group or a direct bond to R³ or to another R⁴, such that the nitrogen atom to which R³ and R⁴ are both attached forms part of a heterocyclic structure defined by R⁴-N-R³, with at least 50% of the groups R⁴ representing a hydrogen atom.

In particular, the ester groups of formula (I), which form part of the terminal and/or

pendent fatty chains for the purposes of the invention, represent from 15% to 40% of the total number of ester and amide groups and better still from 20% to 35%.

Furthermore, n is advantageously an integer ranging

5 from 1 to 10, for example from 1 to 5 and better still greater than 2. Preferably, R¹ is a C₁₂ to C₂₂ and preferably C₁₆ to C₂₂ alkyl group. Advantageously, R² can be a C₁₀ to C₄₂ hydrocarbon-based (alkylene) group.

Preferably, at least 50% and better still at least 75%

10 of the groups R² are groups containing from 30 to 42 carbon atoms. The other groups R² are C₄ to C₁₉ and better still C₄ to C₁₂ hydrogen-containing groups.

Preferably, R³ represents a C₂ to C₃₆ hydrocarbon-based group or a polyoxyalkylene group and R⁴ represents a 15 hydrogen atom. Preferably, R³ represents a C₂ to C₁₂ hydrocarbon-based group.

The hydrocarbon-based groups may be linear, cyclic or branched, and saturated or unsaturated groups. Moreover, the alkyl and alkenyl groups may be 20 linear or branched groups.

According to the invention, the structuring of the liquid fatty phase is obtained with the aid of one or more polymers of formula (I). In general, the polymers of formula (I) are in the form of mixtures of 25 polymers, these mixtures also possibly containing a synthetic product corresponding to a compound of formula (I) in which n is 0, i.e. a diester.

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As examples of structuring polymers which can be used in the composition according to the invention, mention may be made of the commercial products manufactured or sold by the company Arizona Chemical 5 under the names Uniclear 80 and Uniclear 100. They are sold, respectively, in the form of an 80% (in terms of active material) gel in a mineral oil and a 100% (in terms of active material) gel. They have a softening point of from 88 to 94°C. These commercial products are 10 a mixture of a copolymer of a C₃₆ diacid coupled with ethylenediamine, having an average molecular mass of about 6 000. The terminal ester groups result from the esterification of the remaining acid endings with cetyl alcohol, stearyl alcohol or mixtures thereof (also 15 known as cetylstearyl alcohol).

As structuring polymers which can be used in the invention, mention may also be made of polyamide resins resulting from the condensation of an aliphatic dicarboxylic acid and a diamine (including compounds 20 containing more than 2 carbonyl groups and 2 amine groups), the carbonyl and amine groups of adjacent individual units being condensed via an amide bond. These polyamide resins are, in particular, those sold under the brand name Versamid® by the companies General 25 Mills Inc. and Henkel Corp. (Versamid 930, 744 or 1655) or by the company Olin Mathieson Chemical Corp. under the brand name Onamid®, in particular Onamid S or C. These resins have a weight-average molecular mass

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ranging from 6 000 to 9 000. For further information regarding these polyamides, reference may be made to the documents US-A-3 645 705 and US-A-3 148 125. More especially, Versamid® 930 or 744 is used.

5 The polyamides manufactured or sold by the
company Arizona Chemical under the references Uni-Rez®
(2658, 2931, 2970, 2621, 2613, 2624, 2665, 1554, 2623
and 2662) and the product from the company Henkel sold
under the reference Macromelt 6212 may also be useful.
10 For further information regarding these polyamides,
reference may be made to document US-A-5 500 209.

It is also possible to use polyamide resins derived from plants, such as those described in patents US-A-5 783 657 and US-A-5 998 570.

The polymers in the composition according to the invention are preferably those corresponding to

formula (I). On account of their fatty chain(s), these polymers have good solubility in oils and thus give compositions that are macroscopically homogeneous even with a high polymer content (at least 25%), unlike 5 polymers not containing a fatty chain.

Throughout the description, the softening point or melting point values may be determined by the DSC ("Differential Scanning Calorimetry") method; the softening point or melting point then corresponds to 10 the melting peak and the temperature increase is 5 or 10°C/min.

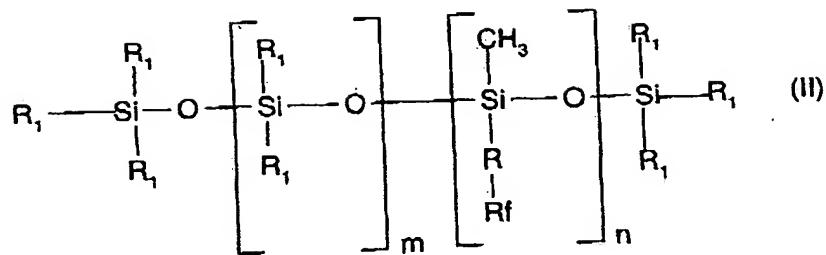
The term "fluoro oil" means any fatty substance that is liquid at room temperature and atmospheric pressure containing at least one fluorine 15 atom. The fluoro oil may especially be a volatile fluoro oil. It preferably has a density of greater than about 1, for example greater than about 1.1, especially greater than about 1.2. It may have a saturating vapour pressure, at 25°C, at least equal to 50 Pa, for example 20 greater than 2 000 Pa and preferably greater than 4 000 Pa.

The fluoro oil may advantageously have a boiling point (at ambient pressure, i.e. 760 mmHg or 10⁵ Pa) of between 20 and 75°C and preferably between 25 25 and 65°C.

Fluoro oils which may be used in the invention include:

- i) fluorosilicone compounds of formula (II):

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in which:

5 - R represents a linear or branched divalent alkyl group containing 1 to 6 carbon atoms, preferably a divalent methyl, ethyl, propyl or butyl group,

- Rf represents a fluoroalkyl radical, especially a perfluoroalkyl radical, containing 1 to 9 carbon atoms, preferably 1 to 4 carbon atoms, in particular of formula $-(CF_2)_q-CF_3$ where q is an integer from 0 to 8 and better still from 0 to 4,

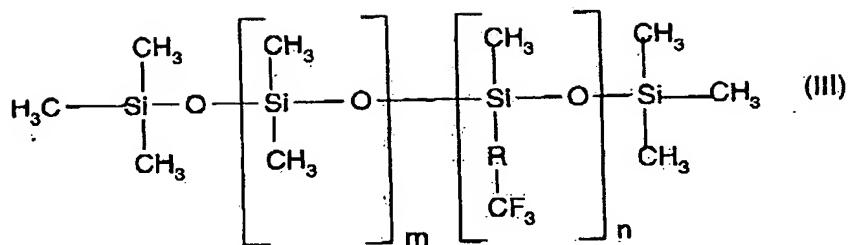
- R₁ represents, independently of each other, a C1-C20 alkyl radical, a hydroxyl radical or a phenyl radical,

15 - m is chosen from 0 to 150 and preferably from 20 to 100, and

- n is chosen from 1 to 300 and preferably from 1 to 100.

Preferably, the groups R₁ are identical and 20 represent a methyl radical.

In one particularly preferred embodiment, the fluorosilicone compound used according to the invention is of formula (III) below:



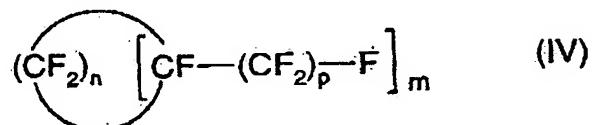
with

- R representing a divalent methyl, ethyl, propyl or butyl group,
- m being chosen from 0 to 80, and
- n being chosen from 1 to 30.

Such compounds are, especially, those sold by the company Shin Etsu under the names 'X22-819', 'X22-820', 'X22-821' and 'X22-822' or 'FL-100'.

10 'X22-820', 'X22-821' and 'X22-822' or 'FL-100'.

ii) the perfluorocycloalkyl compounds of formula (IV) below:



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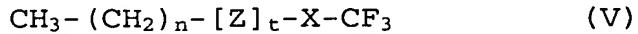
in which n is equal to 4 or 5, m is equal to 1 or 2, and p is equal to 1, 2 or 3;

with the proviso that when $m = 2$, the groups are not necessarily alpha to each other.

20 Among the compounds of formula (IV) that may especially be mentioned are perfluoromethylcyclopentane and perfluorodimethylcyclohexane, sold, respectively, under the names "Flutec PC1®" with a vapour pressure of

368 mbar, and "Flutec PC3®" by the company BNFL Fluorochemicals Ltd, and also perfluorodimethylcyclobutane.

5 iii) the fluoroalkyl or heterofluoroalkyl compounds corresponding to formula (V) below:



in which t is 0 or 1; n is 0, 1, 2 or 3; X is a linear or branched divalent perfluoroalkyl radical containing from 2 to 5 carbon atoms, and Z represents O, S or NR, R being hydrogen, a radical $-(\text{CH}_2)_n-\text{CH}_3$ or $-(\text{CF}_2)_m-\text{CF}_3$, m being 2, 3, 4 or 5.

Among the fluoroalkyl or heterofluoroalkyl compounds of formula (V) that may especially be mentioned are perfluoropolyethers such as methoxynonafluorobutane sold under the name "MSX 4518®", "HFE-7100®" by the company 3M and ethoxynonafluorobutane sold under the name "HFE-7200®" by the company 3M.

iv) the perfluoroalkane compounds corresponding to formula (VI) below:

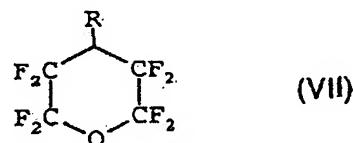


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in which n is 2 to 6.

Among the perfluoroalkane compounds of formula (VI) that may especially be mentioned are dodecafluoropentane and tetradecafluorohexane.

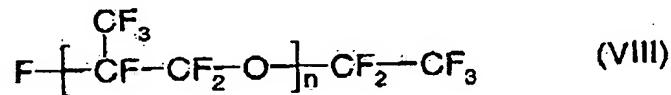
v) the perfluoromorpholine derivatives corresponding 5 to formula (VII) below:



in which R represents a C₁-C₄ perfluoroalkyl radical.

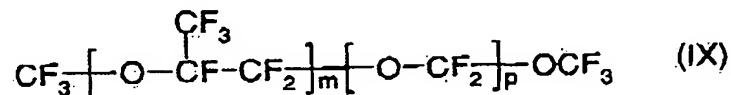
Among the perfluoromorpholine derivatives of formula (VII) that may especially be mentioned are 4-trifluoromethylperfluoromorpholine and 4-pentafluoroethylperfluoromorpholine.

(vi) the perfluoropolyethers corresponding to formulae 15 (VIII) and (IX) below:



in which n is 7 to 30; and

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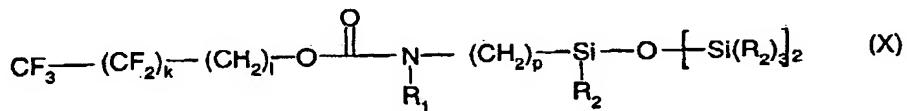


the ratio m/p being from 20 to 40, and the molecular weight ranging from 500 to 20 000.

Among these perfluoropolyethers of formulae (VIII) and (IX), mention may be made, respectively, of 5 the product sold under the name "Fluortress LM36®" by the company DuPont, and those sold under the general name "Fomblin" by the company Montefluos, for example Fomblin HC R®.

It is also possible to use the 10 perfluoropolyethers mentioned in patent application EP-A-641 194, the content of which is incorporated into the present patent application by way of reference. vii) the fluorosilicone compounds corresponding to formula (X) below:

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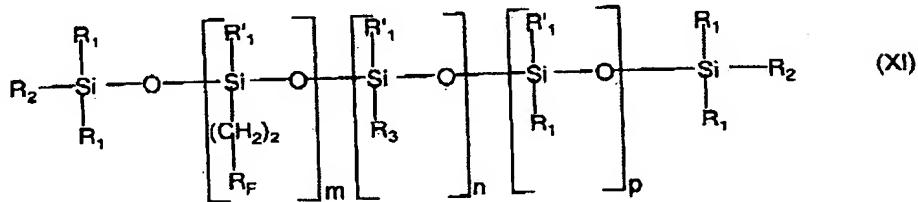


in which k is 1 to 17, l is 1 to 18, p is 1 to 6 and R₁ represents a hydrogen atom or a C₁-C₆ alkyl radical; R₂ 20 represents a C₁-C₆ alkyl radical or a radical -OSi(R₃)₃, and R₃ represents a C₁-C₄ alkyl radical.

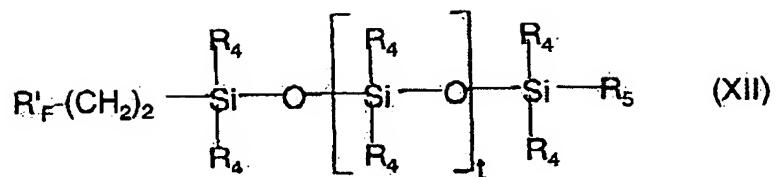
Among the compounds corresponding to formula (IV), mention may especially be made of:

- N-(2-F-octylethoxy carbonyl)-3-
- 25 aminopropyl bis(trimethylsiloxy)methylsilane,
- N-(2-F-hexylethoxy carbonyl)-3-
- aminopropyl bis(trimethylsiloxy)methylsilane,

- N-(2-F-butylethyoxy carbonyl)-3-
 aminopropyl bis(trimethylsiloxy)methylsilane,
 - N-(2-F-octylethyoxy carbonyl)-3-
 aminopropyltris(trimethylsiloxy)silane,
 5 - N-(2-F-hexylethyoxy carbonyl)-3-
 aminopropyltris(trimethylsiloxy)silane, and
 - N-(2-F-butylethyoxy carbonyl)-3-
 aminopropyltris(trimethylsiloxy)silane.
 viii) the fluoroalkylsilicones corresponding to one of
 10 the formulae (XI) and/or (XII) below:



in which R_1 and R'_1 independently represent a linear or
 15 branched alkyl radical containing from 1 to 6 carbon
 atoms, or a phenyl radical,
 R_2 represents R_1 , $-OH$ or $-(CH_2)_f-R_F$, f being an integer
 ranging from 0 to 10,
 R_3 represents a linear or branched alkyl radical
 20 containing from 6 to 22 carbon atoms,
 R_F represents a radical of formula $-(CF_2)_q-CF_3$, q being
 an integer ranging from 0 to 10,
 m and n represent an integer ranging from 1 to 50, and
 p represents an integer ranging from 0 to 2 000,



in which:

R₄ represents a linear or branched alkyl radical containing from 1 to 6 carbon atoms, or a phenyl radical.

R_5 represents a linear or branched alkyl radical containing from 6 to 22 carbon atoms, or a phenyl radical.

10 R'_F represents a radical of formula -(CF₂)_s-CF₃, s being
an integer ranging from 0 to 15, and
t represents an integer ranging from 1 to 2 000.

According to one particular embodiment of the cosmetic compositions according to the invention, the fluoroalkylsilicone corresponds to formula (XI) in which:

R_1 , R'_1 and R_2 represent a methyl radical,

R_3 represents a linear alkyl radical containing from 6 to 22 carbon atoms,

20 m and n are integers ranging from 1 to 20, and q is an integer ranging from 0 to 3 (for example 1, 2 or 3).

According to another embodiment of the compositions according to the invention, the

fluoroalkylsilicone corresponds to formula (XII) in which:

R_4 represents a methyl radical,

R_5 represents a linear alkyl radical containing from 6
5 to 22 carbon atoms, and

s represents an integer ranging from 1 to 13 (for
example 1, 2 or 3).

The fluoroalkylsilicones as defined above are known compounds which have been described especially in
10 patent US-5 473 038.

Fluoro oils which may also be used are the fluorohydrocarbons mentioned in patent application EP-A-609 132, the content of which is incorporated into the present patent application by way of reference.

15 Preferably, the fluoro oil is a fluorosilicone. This oil is especially a compound of formula II or XI and better still of formula III or of formula XI in which $R_1 = R'_1 = R_2 =$ methyl, m and n are numbers from 1 to 20 and q is a number from 0 to 3, or
20 alternatively a perfluoropolyether of formula (V).

The fluoro oil may be present in the composition according to the invention in a content ranging from 0.1% to 50% by weight, relative to the total weight of the composition, preferably ranging
25 from 1% to 30% by weight and better still ranging from 3% to 15% by weight.

Advantageously, the polymer may be combined with at least one amphiphilic compound that is liquid

and non-volatile at room temperature, with a hydrophilic/lipophilic balance (HLB) value of less than 12 and especially ranging from 1 to 8 and preferably from 1 to 5. According to the invention, one or more 5 amphiphilic compounds may be used. The aim of these amphiphilic compounds is to reinforce the structuring properties of the polymer containing a hetero atom, to make the polymer easier to use and to improve the ability of the stick to be deposited.

10 According to the invention, the composition can have a hardness ranging from 20 to 2 000 gf, in particular from 20 to 1 500 gf and better still from 20 to 900 gf, for example from 50 to 600 gf or better still from 150 to 450 gf. This hardness may be measured 15 according to a method of penetration of a probe into the said composition and in particular using a texture analyser (for example TA-XT2i from Rhéo) equipped with an ebonite cylinder 5 mm high and 8 mm in diameter. The hardness measurement is carried out at 20°C at the 20 centre of 5 samples of the said composition. The cylinder is introduced into each composition sample at a pre-speed of 2 mm/s, then at a speed of 0.5 mm/s and finally at a post-speed of 2 mm/s, the total displacement being 1 mm. The hardness value taken is 25 that of the maximum peak. The measurement error is +/- 50 gf.

The hardness can also be measured by the "cheese wire" method, which consists in cutting a tube

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of lipstick 8.1 mm in diameter and in measuring the hardness at 20°C using a DFGHS 2 tensile testing machine from the company Indelco-Chatillon, travelling at a speed of 100 mm/minute. It is expressed as the 5 shear force (expressed in grams force) required to cut a stick under these conditions. According to this method, the hardness of a composition in stick form according to the invention ranges from 30 to 300 gf, better still from 30 to 250 gf, especially from 30 to 10 180 gf, preferably from 30 to 150 gf, and for example from 30 to 120 gf.

The hardness of the composition according to the invention is such that the composition is self-supporting and can disintegrate easily to form a 15 satisfactory deposit on the skin and/or the lips and/or the integuments. In addition, with this hardness, the composition of the invention has good impact strength.

According to the invention, the composition in stick form has the behaviour of a deformable, 20 flexible elastic solid, giving noteworthy elastic softness on application. The compositions in stick form of the prior art do not have this property of elasticity and flexibility.

The amphiphilic compound(s) which can be used 25 in the composition of the invention comprise a lipophilic part linked to a polar part, the lipophilic part comprising a carbon-based chain containing at least 8 carbon atoms, in particular from 18 to 32

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carbon atoms and better still from 18 to 28 carbon atoms. The polar part of this or these amphiphilic compound(s) is preferably the residue of a compound chosen from alcohols and polyols containing from 1 to 5 12 hydroxyl groups, and polyoxyalkylenes comprising at least 2 oxyalkylene units and containing from 0 to 20 oxypropylene units and/or from 0 to 20 oxyethylene units. In particular, the amphiphilic compound is an ester chosen from the hydroxystearates, oleates and 10 isostearates of glycerol, of sorbitan or of methylglucose, or alternatively branched C₁₂ to C₂₆ fatty alcohols such as octyldodecanol, and mixtures thereof. Among these esters, monoesters and mixtures of mono- and diesters are preferred.

15 The content of fluoro oil, that of the polymer containing a hetero atom, and optionally that of the amphiphilic compound are chosen according to the desired gel hardness and as a function of the specific application envisaged. The respective amounts of 20 polymer and optionally of amphiphilic compound should be such that they produce a stick which can be worn down. In practice, the amount of polymer represents from 0.5 to 80% of the total weight of the composition, and better still from 5% to 40%. The amount of 25 amphiphilic compound in practice represents from 0.1% to 35% of the total weight of the composition and better still from 1% to 15%, if it is present.

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The liquid fatty phase in the composition according to the invention may comprise an additional oil, other than the fluoro oil described above (the additional oil is thus a non-fluoro oil). In 5 particular, the additional oil may be a volatile oil or a non-volatile oil.

The liquid fatty phase of the composition advantageously contains more than 30%, for example more than 40% of liquid oil(s) containing a group similar to that of the units containing a hetero atom, and better still from 50% to 100%. In particular, the liquid fatty phase structured with a polyamide-type skeleton contains a high quantity, i.e. greater than 30% or even 40% of the total weight of the liquid fatty phase and better still from 50% to 100%, of liquid apolar and more especially hydrocarbon-based oil or mixture of oils. For the purposes of the invention, the expression "hydrocarbon-based oil" means an oil essentially comprising carbon and hydrogen atoms, optionally with one or more hydroxyl, ester or ether groups.

For a liquid fatty phase structured with a polymer containing a partially silicone-based skeleton, this fatty phase preferably contains more than 30%, for example more than 40% of the total weight of the liquid fatty phase and better still from 50% to 100%, of silicone-based liquid oil or mixture of oils, relative to the total weight of the liquid fatty phase. In

particular, these silicone oils are fluorosilicone oils.

For a liquid fatty phase structured with an apolar polymer of the hydrocarbon-based type, this 5 fatty phase advantageously contains more than 30% by weight, for example more than 40% by weight, and better still from 50% to 100%, of liquid apolar and in particular hydrocarbon-based oil or mixture of oils, relative to the total weight of the liquid fatty phase.

10 In particular, the additional polar oils of the invention are:

- hydrocarbon-based plant oils with a high content of triglycerides consisting of fatty acid esters of glycerol in which the fatty acids may have varied chain 15 lengths from C₄ to C₂₄, these chains possibly being linear or branched, and saturated or unsaturated; these oils are, in particular, wheat germ oil, corn oil, sunflower oil, karite butter, castor oil, sweet almond oil, macadamia oil, apricot oil, soybean oil, cotton 20 oil, alfalfa oil, poppy oil, pumpkin oil, sesame oil, marrow oil, rapeseed oil, avocado oil, hazelnut oil, grapeseed oil, blackcurrant seed oil, evening primrose oil, millet oil, barley oil, quinoa oil, olive oil, rye oil, safflower oil, candlenut oil, passionflower oil 25 and musk rose oil; or alternatively caprylic/capric acid triglycerides such as those sold by the company Stearineries Dubois or those sold under the names Miglyol 810, 812 and 818 by the company Dynamit Nobel;

- synthetic oils or synthetic esters of formula R_5COOR_6 in which R_5 represents a linear or branched fatty acid residue containing from 1 to 40 carbon atoms and R_6 represents an in particular branched hydrocarbon-based

5 chain containing from 1 to 40 carbon atoms, on condition that $R_5 + R_6 \geq 10$, such as, for example, purcellin oil (cetostearyl octanoate), isononyl isononanoate, C_{12} - C_{15} alkyl benzoate, isopropyl myristate, 2-ethylhexyl palmitate, isostearyl 10 isostearate, and alkyl or polyalkyl octanoates, decanoates or ricinoleates; hydroxylated esters such as isostearyl lactate and diisostearyl malate; and pentaerythritol esters;

15 - synthetic ethers containing from 10 to 40 carbon atoms;

- C_8 to C_{26} fatty alcohols such as oleyl alcohol;

- C_8 to C_{26} fatty acids such as oleic acid, linoleic acid or linolenic acid;

- mixtures thereof.

20 The additional apolar oils according to the invention are, in particular, silicone oils such as volatile or non-volatile, linear or cyclic polydimethylsiloxanes (PDMSSs) that are liquid at room temperature (25°C); polydimethylsiloxanes comprising 25 alkyl, alkoxy or phenyl groups which are pendent and/or at the end of the silicone chain, the groups each containing from 2 to 24 carbon atoms; phenylsilicones such as phenyl trimethicones, phenyl dimethicones,

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phenyl trimethylsiloxy diphenylsiloxanes, diphenyl dimethicones, diphenyl methyldiphenyl trisiloxanes and 2-phenylethyl trimethylsiloxy silicates; linear or branched hydrocarbons of synthetic or mineral origin,

5 such as volatile liquid paraffins (such as isoparaffins and isododecane) or non-volatile liquid paraffins and derivatives thereof, petroleum jelly, liquid lanolin, polydecenes, hydrogenated polyisobutene such as Parleam, and squalane, and mixtures thereof.

10 The additional oils are preferably apolar oils and more especially an oil or a mixture of oils of the hydrocarbon-based type of mineral or synthetic origin, chosen in particular from hydrocarbons, especially alkanes such as parleam oil, isoparaffins
15 15 such as isododecane, and squalane, and mixtures thereof. These oils are advantageously combined with one or more phenylsilicone oils.

20 The liquid fatty phase preferably contains at least one additional non-volatile oil chosen in particular from hydrocarbon-based oils of mineral, plant or synthetic origin, synthetic esters or ethers and silicone oils, and mixtures thereof.

25 In practice, the total liquid fatty phase represents from 5% to 99% of the total weight of the composition, preferably from 10% to 80% and better still from 20% to 75%.

The liquid fatty phase of the composition according to the invention also contains at least one

additional volatile oil, other than the fluoro oils described above, namely one or more volatile oils also known as volatile solvents.

For the purposes of the invention, the expression "volatile solvent or oil" means any non-aqueous medium capable of evaporating on contact with the skin or the lips in less than one hour at room temperature and atmospheric pressure. The volatile solvent(s) of the invention is(are) organic solvents and in particular volatile cosmetic oils that are liquid at room temperature, having a non-zero vapour pressure, at room temperature and atmospheric pressure, ranging in particular from 10^{-3} to 300 mmHg (0.13 Pa to 40 000 Pa) and preferably greater than 0.03 mmHg (4 Pa), and for example greater than 0.3 mmHg (40 Pa).

According to the invention, these volatile solvents or oils facilitate, in particular, the application of the composition to the skin, the lips or the integuments. These solvents or oils may be hydrocarbon-based solvents, silicone solvents optionally comprising alkyl or alkoxy groups that are pendent or at the end of a silicone chain, or a mixture of these solvents. Preferably, these solvents are not alcohols containing at least 7 carbon atoms.

As volatile solvents or oils which can be used in the invention, mention may be made of linear or cyclic silicone oils having a viscosity at room temperature of less than 8 cSt and in particular

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containing from 2 to 7 silicon atoms, these silicones optionally comprising alkyl or alkoxy groups containing from 1 to 10 carbon atoms. As volatile silicone oils which may be used in the invention, mention may be made

5 in particular of octamethylcyclotetrasiloxane,
decamethylcyclopentasiloxane,
dodecamethylcyclohexasiloxane, heptamethyl-
hexyltrisiloxane, heptamethyloctyltrisiloxane,
hexamethyldisiloxane, octamethyltrisiloxane,
10 decamethyltetrasiloxane and dodecamethylpentasiloxane,
and mixtures thereof.

As other volatile solvents or oils which may be used in the invention, mention may be made of hydrocarbon-based volatile oils containing from 8 to 16 carbon atoms, and mixtures thereof, and in particular branched C₈-C₁₆ alkanes such as C₈-C₁₆ isoalkanes (also known as isoparaffins), isododecane, isodecane, isohexadecane and, for example, the oils sold under the trade names "Isopars" or "Permetyls", and branched 20 C₈-C₁₆ esters such as isohexyl neopentanoate, and mixtures thereof. The volatile solvent is preferably chosen from hydrocarbon-based volatile oils containing from 8 to 16 carbon atoms, and mixtures thereof.

Isododecane (Permetyls 99 A) and C₈-C₁₆ 25 isoparaffins (Isopars L, E, H) and mixtures thereof, optionally combined with decamethyltetrasiloxane, are preferably used.

The additional oils, especially the additional volatile oils, in particular represent a content by mass of from 5% to 97.5% relative to the total weight of the composition, preferably from 10% to

5 75% and better still from 15% to 45%. In general, the
amount of volatile solvent used is an amount which is
sufficient to obtain transfer-resistance properties.
This amount will be adapted by a person skilled in the
art according to the desired intensity of the transfer-
10 resistance properties.

The composition of the invention can also comprise any additive usually used in the field under consideration, chosen in particular from dyestuffs, antioxidants, essential oils, preserving agents.

15 fragrances, fillers, waxes, products that are pasty or viscous at room temperature, neutralizers, polymers that are liposoluble or dispersible in the medium, cosmetic or dermatological active agents which have a beneficial effect on the skin, the lips and the

20 integuments, such as, for example, emollients, moisturizers, vitamins (A, C, D, E and F), essential fatty acids, sunscreens, dispersants such as poly(12-hydroxystearic acid), and mixtures thereof.

These additives may be present in the composition in a

25 proportion of from 0% to 20% (in particular from 0.01% to 20%) relative to the total weight of the composition and better still from 0.01% to 10%. The composition

advantageously contains at least one cosmetic or dermatological active agent.

The composition of the invention can also contain, as additive, an aqueous phase containing water 5 that is optionally thickened or gelled with an aqueous-phase thickener or gelling agent and optionally water-miscible compounds. The water may represent from 0.5% to 50% and better still from 1% to 30% of the total weight of the composition.

10 Needless to say, a person skilled in the art will take care to select the optional additional additives and/or the amount thereof such that the advantageous properties of the composition according to the invention are not, or are not substantially, 15 adversely affected by the envisaged addition.

10 The composition according to the invention can be in the form of a tinted or untinted dermatological or care composition for keratin materials such as the skin, the lips and/or the 20 integuments, in the form of an antisun composition or body hygiene composition in particular in the form of a deodorant product or make-up-removing product in stick form. It can be used in particular as a care base for the skin, integuments or the lips (lip balms, for 25 protecting the lips against cold and/or sunlight and/or the wind, or care cream for the skin, the nails or the hair).

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The composition of the invention may also be in the form of a coloured make-up product for the skin, in particular a foundation, optionally having care or treatment properties, a blusher, a face powder, an eye 5 shadow, a concealer product, an eyeliner, a make-up product for the body; a make-up product for the lips such as a lipstick, optionally having care or treatment properties; a make-up product for integuments such as the nails or the eyelashes, in particular in the form 10 of a mascara cake, or for the eyebrows and the hair, in particular in the form of a pencil, or a gelled nail varnish.

Needless to say, the composition of the invention should be cosmetically or dermatologically 15 acceptable, i.e. it should contain a non-toxic physiologically acceptable medium which should be able to be applied to the skin, integuments or the lips of human beings. For the purposes of the invention, the expression "cosmetically acceptable" means a 20 composition of pleasant appearance, odour, feel and taste.

The composition advantageously contains at least one cosmetic active agent and/or one dermatological active agent and/or at least one 25 dyestuff. By means of the combination of at least one volatile solvent and of at least one polymer with an average molecular mass of less than 1 000 000, for example less than 500 000 and better still less than or

equal to 100 000, as defined above, trapping of the active agents and dyestuffs present in the composition is obtained, making it possible to keep them where they were applied, i.e.. on the lips, the skin or integuments 5 such as keratin fibres, after the volatile solvent(s) has(have) evaporated off, and to limit their transfer or redeposition onto a support other than the one to which they were applied.

The dyestuff according to the invention may 10 be chosen from the lipophilic dyes, hydrophilic dyes, pigments and nacres (or nacreous pigments) usually used in cosmetic or dermatological compositions, and mixtures thereof. This dyestuff is generally present in a proportion of from 0.01% to 50% of the total weight 15 of the composition, preferably from 0.5% to 40% and better still 5% to 30%, if it is present. In the case of a composition in the form of a free or compacted powder, the amount of dyestuff in the form of solid particles that are insoluble in the medium (nacres 20 and/or pigments) may range up to 90% of the total weight of the composition.

The liposoluble dyes are, for example, Sudan Red, D&C Red 17, D&C Green 6, β -carotene, soybean oil, Sudan Brown, D&C Yellow 11, D&C Violet 2, D&C Orange 5, 25 quinoline yellow or annatto. They can represent from 0.1% to 20% of the weight of the composition and better still from 0.1% to 6%.

The pigments may be white or coloured, mineral and/or organic, and coated or uncoated. Among the mineral pigments which may be mentioned are titanium dioxide, optionally surface-treated, zirconium oxide, zinc oxide or cerium oxide, as well as iron oxide, chromium oxide, manganese violet, ultramarine blue, chromium hydrate and ferric blue. Among the organic pigments which may be mentioned are carbon black, pigments of D&C type, and lakes based on

5 cochineal carmine or on barium, strontium, calcium or aluminium. The pigments can represent from 0.1% to 50%, preferably from 0.5% to 40% and better still from 2% to 30% of the total weight of the composition, if they are present.

10 The nacreous pigments may be chosen from white nacreous pigments such as mica coated with titanium or with bismuth oxychloride, coloured nacreous pigments such as titanium mica with iron oxides, titanium mica with, in particular, ferric blue or

15 chromium oxide, titanium mica with an organic pigment of the type mentioned above, as well as nacreous pigments based on bismuth oxychloride. They can represent from 0.1% to 20% relative to the total weight of the composition, and better still from 0.1% to 15%,

20 if they are present. The nacreous pigments may be treated or untreated.

Preferably, the composition contains nacreous or non-nacreous pigments.

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The composition can optionally contain one or more waxes to improve the structuring in stick form, although this rigid form can be obtained in the absence of wax. For the purposes of the present invention, a 5 wax is a lipophilic fatty compound that is solid at room temperature (25°C), which undergoes a reversible solid/liquid change of state, having a melting point of greater than 40°C and better still greater than 45°C, which may be up to 200°C, and having an anisotropic 10 crystal organization in the solid state. The size of the crystals is such that the crystals diffract and/or scatter light, giving the composition a cloudy, more or less opaque appearance. By bringing the wax to its melting point, it is possible to make it miscible with 15 oils and to form a microscopically homogeneous mixture, but, on returning the temperature of the mixture to room temperature, recrystallization of the wax in the oils of the mixture is obtained. It is this recrystallization in the mixture which is responsible 20 for the reduction in the gloss of the said mixture. Thus, the composition advantageously contains little or no wax, and in particular less than 5% wax.

For the purposes of the application, the waxes are those generally used in cosmetics and 25 dermatology; they are especially of natural origin, for instance beeswax, carnauba wax, candelilla wax, ouricury wax, Japan wax, cork fibre wax, sugar cane wax, paraffin wax, lignite wax, microcrystalline waxes,

lanolin wax, montan wax, ozokerites and hydrogenated oils such as hydrogenated jojoba oil as well as waxes of synthetic origin, for instance polyethylene waxes derived from the polymerization of ethylene, waxes

5 obtained by Fischer-Tropsch synthesis, fatty acid esters and glycerides that are solid at 40°C and better still at 45°C, silicone waxes such as alkyl- and alkoxy-poly(di)methylsiloxanes and/or poly(di)methylsiloxane esters that are solid at 40°C

10 and better still at 45°C.

The composition of the invention also advantageously contains at least one polymer that is liposoluble or dispersible in the medium, especially having an average molecular weight of from 500 to

15 1 000 000 and better still from 5 000 to 15 000. This (these) liposoluble polymer(s) contribute(s) in particular towards increasing the viscosity and/or improving the staying power of the film. These liposoluble polymers advantageously have a softening

20 point of not more than 30°C.

As examples of liposoluble polymers which can be used in the invention, mention may be made of:

polyalkylenes, in particular polybutene,

poly(meth)acrylates, alkylcelluloses with a linear or

25 branched, saturated or unsaturated C₁ to C₈ alkyl radical, such as ethylcellulose and propylcellulose,

silicone polymers that are compatible with the fatty

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phase, as well as vinylpyrrolidone (VP) copolymers, and mixtures thereof.

Vinylpyrrolidone copolymers, copolymers of a C₂ to C₃₀ and better still C₃ to C₂₂ alkene, and

5 combinations thereof, are preferably used. As examples of VP copolymers which can be used in the invention, mention may be made of VP/vinyl acetate, VP/ethyl methacrylate, butylated polyvinylpyrrolidone (PVP), VP/ethyl methacrylate/methacrylic acid, VP/eicosene, 10 VP/hexadecene, VP/triacontene, VP/styrene or VP/acrylic acid/lauryl methacrylate copolymer.

Preferably, not only for the staying power properties but also the feel and consistency properties of the film, the PVP/hexadecene copolymer having an 15 average molecular weight of from 7 000 to 7 500 or alternatively the PVP/eicosene having an average molecular weight of from 8 000 to 9 000 is used.

The polymers that are liposoluble or dispersible in the composition of the invention are 20 advantageously used in an amount of from 0.01% to 20% (as active material) relative to the total weight of the composition and better still from 1% to 10%, if they are present.

The composition according to the invention 25 also advantageously contains at least one fatty compound that is pasty at room temperature. For the purposes of the invention, the expression "pasty fatty substance" means fatty substances with a melting point

ranging from 20°C to 55°C, preferably 25°C to 45°C and better still 25°C to 40°C, and/or a viscosity at 40°C ranging from 0.1 to 40 Pa.s (1 to 400 poises), preferably 0.5 to 25 Pa.s, measured using a Contraves

5 TV or Rhéomat 180 viscometer, equipped with a spindle rotating at 240 rpm for a current supply of 60 Hz or at 200 rpm for a current supply of 50 Hz. A person skilled in the art can select the spindle for measuring the viscosity from the spindles MS-r3 and MS-r4, on the
10 basis of his general knowledge, so as to be able to carry out the measurement of the pasty compound tested.

According to the invention, one or more pasty fatty substances are used. These fatty substances are preferably hydrocarbon-based compounds, optionally of
15 polymeric type; they can also be chosen from silicone compounds and/or fluoro compounds; they may also be in the form of a mixture of hydrocarbon-based compounds and/or silicone compounds and/or fluoro compounds. In the case of a mixture of different pasty fatty
20 substances, the hydrocarbon-based pasty compounds are preferably used in major proportion.

Among the pasty compounds which may be used in the composition according to the invention, mention may be made of lanolins and lanolin derivatives such as
25 acetylated lanolins or oxypropylenated lanolins, having a viscosity of from 18 to 21 Pa.s, preferably 19 to 20.5 Pa.s, and/or a melting point of from 30°C to 55°C and better still 30°C to 40°C, and mixtures thereof. It

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is also possible to use esters of fatty acids or of fatty alcohols, in particular those containing from 20 to 65 carbon atoms (melting point of about from 20°C to 35°C and/or viscosity at 40°C ranging from 0.1 to

5 40 Pa.s), such as triisostearyl citrate or cetyl citrate; arachidyl propionate; polyvinyl laurate; cholesterol esters, such as triglycerides of plant origin, such as hydrogenated plant oils, viscous polyesters such as poly(12-hydroxystearic acid), and

10 mixtures thereof. Triglycerides of plant origin which may be used are hydrogenated castor oil derivatives, such as "Thixinr" from Rheox.

Mention may also be made of pasty silicone fatty substances such as polydimethylsiloxanes (PDMSs) containing pendent chains of the alkyl or alkoxy type containing from 8 to 24 carbon atoms, and having a melting point of 20-55°C and better still from 25°C to 40°C, such as stearyldimethicones, in particular those sold by Dow Corning under the trade names DC2503 and

20 DC25514, and mixtures thereof.

The pasty fatty substance(s) may be present in a proportion of from 0.1% to 60% by weight, relative to the total weight of the composition, preferably in a proportion of from 1-45% by weight, and even more

25 preferably in a proportion of from 2-30% by weight, in the composition, if they are present.

The composition according to the invention may be manufactured by the known processes, that are

generally used in cosmetics or dermatology. It may be manufactured by the process which consists in heating the polymer at least to its softening point, in adding the amphiphilic compound(s), the non-volatile oils,

5 including the non-volatile fluoro oils, the dyestuffs and the additives thereto and then in mixing everything together until a clear, transparent solution is obtained. After reducing the temperature, the volatile solvent(s) is(are) then added to the mixture obtained.

10 The homogeneous mixture obtained can then be cast in a suitable mould such as a lipstick mould or directly into the packaging articles (case or dish in particular).

A subject of the invention is also a lipstick composition in stick form containing at least one continuous liquid fatty phase comprising at least one fluoro oil, the liquid fatty phase being structured with at least one non-waxy polymer giving the composition the appearance of an elastic deformable solid with a hardness ranging from 30 to 300 gf (measured according to the cheese wire method described above), in the absence of wax.

This lipstick composition in stick form advantageously contains an additive chosen from fatty compounds that are pasty at room temperature, liposoluble polymers and mixtures thereof, as defined previously. The non-waxy polymer is preferably a polymer whose skeleton comprises hydrocarbon-based

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units containing a hetero atom, as defined previously, and especially having a molecular mass of less than 100 000.

A subject of the invention is also a cosmetic process for caring for, making up or treating human keratin materials, and in particular the skin, the lips and integuments, comprising the application to the keratin materials of the composition, in particular the cosmetic composition, as defined above.

10 A subject of the invention is also the use of
the combination of at least one liquid fatty phase
containing a fluoro oil and of at least one polymer
with a weight-average molecular mass of less than or
equal to 1 000 000, comprising a) a polymer skeleton
15 containing hydrocarbon-based repeating units containing
at least one hetero atom, and b) optionally at least
one pendent fatty chain and/or at least one terminal
fatty chain that are optionally functionalized,
containing from 6 to 120 carbon atoms and being linked
20 to these hydrocarbon-based units, in a cosmetic
composition or for the manufacture of a physiologically
acceptable composition, in order to reduce the transfer
and/or deposit of traces of a film of the said
composition, applied to the keratin materials, onto a
25 support placed in contact with the said film and/or to
improve the staying power of the said film and/or to
obtain a non-sticky film. This film is also glossy

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and/or comfortable. This combination advantageously contains an additional volatile oil.

According to one particular embodiment of the invention, the composition is in two-product form and 5 more especially in the form of a two-product stick. Each product may be applied separately to keratin materials, and especially the skin or the lips, or alternatively one after the other so as to form a two-coat care treatment or make-up, the properties of which 10 are adapted at will by the user. Thus, it is possible to obtain, as a single coat, a film, especially of make-up, that is glossy and comfortable, or a non-sticky, transfer-resistant film, or, as two coats, a film with good staying power over time, that is glossy, 15 non-sticky and comfortable.

The invention is illustrated in greater detail in the examples which follow. The amounts are given as percentages by weight.

20 **Example 1: Lipstick**

Phase A

• Uniclear 100	18%
• Fluorosilicone (X22819 from Shin Etsu)	5%
• Castor oil	2%
• Hydrogenated isoparaffin	4%
• Isononyl isononanoate	4%
• Phenyltrimethylsiloxytrisiloxane	8%

- Vinylpyrrolidone/1-eicosene copolymer 2%

Phase B

- Pigments (iron oxide) 10%
- Hydrogenated isoparaffin 5%
- Liquid lanolin 5%
- Poly(12-hydroxystearic acid) 2%

(Solsperse 21 000 from Avecia)

Phase C

- Isododecane 25%
- Decamethyltetrasiloxane 10%

The pigment phase (B) is ground using a
 5 three-roll mill and introduced into the oily phase A
 preheated to 100°C, until the mixture is fully
 homogenized. The volatile phase C is then added to the
 above mixture, cooled to 85°C. The resulting mixture is
 left in contact for 10 min and then cast into lipstick
 10 moulds. A two-product stick is thus obtained.

Specifically, the sticks obtained have two parts: a
 glossy coloured top end which deposits a glossy
 coloured film on the lips, and a bottom end which
 deposits a non-sticky and transfer-resistant film on
 15 the lips. Furthermore, the stick does not exude at room
 temperature (25°C) for at least 2 months.

Three different types of make-up effect may
 thus be produced with the same stick and at the user's

choice: a one-coat transfer-resistant make-up, a one-coat glossy make-up or a two-coat make-up. The base coat, in contact with the lips, is in particular the non-sticky transfer-resistant coat, and the topcoat,

5 applied over the base coat, is the glossy coat. The order of the two coats may also be inverted. The final make-up result obtained has good staying power and is comfortable, non-sticky and glossy.

10 **Example 2: Lipstick**

Phase A

• Uniclear 100	18%
• Castor oil	8%
• Hydrogenated isoparaffin	5%
• Isononyl isononanoate	5%
• Phenyltrimethylsiloxytrisiloxane	8%
• Vinylpyrrolidone/1-eicosene copolymer	2%

Phase B

• Pigments (iron oxide)	10%
• Hydrogenated isoparaffin	5%
• Liquid lanolin	5%
• Poly(12-hydroxystearic acid)	2%
(Solisperse 21 000 from Avecia)	

Phase C

• Nonafluoromethoxybutane	5%
• Isododecane	22%

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- Decamethyltetrasiloxane 5%

The pigment phase (B) is ground using a three-roll mill and introduced into the oily phase A preheated to 100°C, until the mixture is fully 5 homogenized. The volatile phase C is then added to the above mixture, cooled to 85°C. The resulting mixture is left in contact for 10 min and then cast into lipstick moulds.

10 A two-product stick is again obtained, with a
glossy coloured top end and a non-sticky and transfer-
resistant bottom end. Three types of make-up result may
thus be produced as one coat or two coats. Furthermore,
the two-product stick does not exude at room
temperature for at least 2 months.

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Example 3: Lipstick

Phase A

- Uniclear 100 18%
- Fluorosilicone (X22819 from Shin Etsu) 5%

Phase B

- Pigments (iron oxide) 10%
- Poly(12-hydroxystearic acid) 1.3%

(Solsperse 21 000 from Avecia)

Phase C

- Parteam 13.8%

- Isononyl isononanoate qs 100%

The lipstick is prepared as in Examples 1 and 2.

One-product sticks are obtained here, which 5 deposit a glossy, non-sticky and transfer-resistant film. The sticks do not exude at room temperature for at least 2 months.

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